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a batting layer comprising polymeric fibers, at least a portion of which extend through the thickness of the mat layers and interconnect the fibers of all of the layers to increase the shape-retaining capability of the mat during pultrusion of the part.

27 (Once Amended). A mat for use as reinforcement for a resin composition to be used in forming an elongated, pultruded part of constant transverse cross-section using a pultrusion dies, said mat comprising:

a first layer of continuous, generally longitudinally-extending fibers which provide longitudinal strength to the mat;

a second layer of generally transverse reinforcement fibers in association with the first layer of generally longitudinal fibers and oriented in a direction at an angle with respect to the longitudinal pull direction of the mat to provide transverse strength to the mat; and

a batting layer comprising polymeric fibers, at least a portion of which extend through the thickness of the mat layers and interconnect the fibers of all of the layers to increase the shape-retaining capability of the mat during pultrusion of the part, the batting layer being bonded to the other layers of the mat.

65. (Once Amended) A reinforcement mat adapted for use in manufacture of a pultruded part where the mat is pulled through a pultrusion die in a continuous longitudinal pull direction, said mat comprising:

a body having a pair of opposed outer surfaces which define the thickness of the mat,

said body including elongated reinforcing fibers oriented in a direction transverse to said pull direction; and

batting material in contact with said reinforcing fibers and including polymeric staple fibers, a certain proportion of said staple fibers extending through at least a portion of said mat thickness and randomly entangled with and interconnecting said reinforcing fibers.

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85. (Once Amended) A reinforcement mat adapted for use and manufacture of a pultruded part where the mat is pulled along with longitudinal fibers through a pultrusion die in a continuous longitudinal pull direction, said mat comprising:
a body presenting a pair of opposed outer surfaces defining the thickness of the mat,

said body including elongated reinforcing fibers oriented in a direction transverse to said pull direction and arranged to provide transverse strength to a pultruded part containing the mat; and

said body including fiber means including polymeric entangling staple fibers extending through at least a portion of said mat thickness and randomly entangled with said reinforcing fibers, said fiber means being operable to carry the transverse fibers through the pultrusion die and to provide longitudinal strength, shear strength and anti-skewing resistance to the mat during pultrusion of a part reinforced with the mat.

REMARKS

This Amendment and Response is submitted in reply to the Office Action mailed February 12, 2003. Claims 13-28, 65-96, and 121-126 were rejected. Claims 13-28, 65-96, and 121-126 are pending.

Claims 13-28, 65-96, and 121-126 were rejected under 35 U.S.C. §103(a) as being patentable over Vane (5,055,242) in view of Beer (5,910,458). Independent claims 13, 27, 65, and 85 have been amended to recite a batting layer or staple fibers being a polymeric material. Vane does not disclose entangling fibers of any kind. Beer discloses a secondary layer of glass fibers (Beer et al, col. 14, line 3 – column 17, line 40). Neither of the cited references disclose a batting layer or staple fibers of a polymeric material. Therefore, no prima facie case of obviousness is set forth.

U.S. Patent No. 5,055,242 (Vane) discloses a reinforcing material having a plurality of superimposed layers. Each layer consists of a plurality of uni-directional non-